



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,410	09/30/2003	Kaoru Iseri	JP920020173US1	8062

7590 03/08/2005
Hitachi Global Storage Technologies
Intellectual Property Law
5600 Cottle Road, NHGB/0142
San Jose, CA 95193

EXAMINER

OLSON, JASON C

ART UNIT PAPER NUMBER

2651

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/676,410	Applicant(s) ISERI ET AL.	
	Examiner Jason C Olson	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3-31 rejected under 35 U.S.C. 102(b) as being anticipated by Yarmchuk et al, (US 5,612,833), hereafter Yarmchuk.

Regarding claim 1, Yarmchuk teaches a first step of positioning an actuator on which a composite head containing a read head and a write head is mounted while said actuator is in contact with a crash stop (see col. 13, ln. 21-25), and causing the write head to write a servo pattern and a propagation pattern onto a disk-type storage medium (see col. 13, ln. 25-29); and a second step of, when said servo pattern written on said disk-type storage medium by said write head can be detected by said read head (see col. 13, ln. 41-47; it is interpreted by the examiner that the demodulated read back is detecting the servo pattern), positioning said write head by means of servo control based on detected said servo pattern (see col. 13, ln. 65-col. 14, ln. 15) and causing said write head to further write a servo pattern and propagation pattern onto the disk-type storage medium (see col. 14, ln. 32-41).

Regarding claim 3, Yarmchuk teaches second step causes said read head to detect said propagation pattern written on said disk-type storage medium (see col. 13, ln. 41-47; it is interpreted by the examiner that demodulating a readback is detecting the propagation pattern) and corrects the position of said write head in accordance with the detected propagation pattern (see col. 13, ln. 65-col. 14, ln. 15).

Regarding claim 4, Yarmchuk teaches determining a feed pitch for writing a trigger pattern (see col. 13, ln. 23-31; it is interpreted by the examiner that the precise timing marks is a trigger pattern) onto said disk-type storage medium (see col. 13, ln. 21-25 and in accordance with page 3, lines 1-3 of the instant specification).

Regarding claim 5, Yarmchuk teaches determining a write time interval (see col. 13, ln. 6-19) between the instant at which said read head detects said trigger pattern written on said disk-type storage medium and the instant at which said write head writes the next trigger pattern onto the disk-type storage medium (see col. 14, ln. 35-45 and col. 22, ln. 35-49).

Regarding claim 6, Yarmchuk teaches write time interval determination step uses a read/write offset which is the distance between said read head and said write head (see col. 19, ln. 28-39 and col. 20, ln. 21-30).

Regarding claim 7, Yarmchuk teaches write time interval determination step causes said read head to detect the time difference between trigger patterns written onto radially adjacent tracks of said disk-type storage medium (see col. 14, ln. 35-67; it is interpreted by the examiner that the position error signal (PES) includes a time difference between trigger patterns).

Regarding claims 8 and 9: claims 8 and 9 have limitations similar to those treated in the above rejection(s), and are met by the references as discussed above. Claim 8 however also recites the following limitations as taught by Yarmchuk: writing, by said write head, a trigger pattern, a servo pattern, and a propagation taught pattern onto said disk-type storage medium (see col. 13, ln. 23-31; it is interpreted by the examiner that the precise timing marks is a trigger pattern).

Regarding claim 10, Yarmchuk teaches trigger pattern and said servo pattern are to be written in a position information storage area of said disk-type storage medium, and wherein said propagation pattern is to be written in a data storage area of the disk-type storage medium (see col. 12, ln. 36-45).

Art Unit: 2651

Regarding claims 11-13: claims 11-13 have limitations similar to those treated in the above rejection(s), and are met by the references as discussed above.

Regarding claims 14-16: claims 14-16 have limitations similar to those treated in the above rejection(s), and are met by the references as discussed above. Claim 16 however also recites the following limitations as taught by Yarmchuk: said second step writes, by said write head, a measurement pattern at a position other than the position for said servo pattern on said disk-type storage medium (see col. 13, ln. 25-29; it is interpreted by the examiner that the propagation pattern is a measurement pattern).

Regarding claims 17 and 18: apparatus claims 17 and 18 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1 and 3-7. Therefore apparatus claims 17 and 18 correspond to method claims 1 and 3-7, and are rejected for the same reasons of anticipation as used above.

Regarding claims 19-21: apparatus claims 19-21 are drawn to the apparatus corresponding to the method of using same as claimed in claims 8-10. Therefore apparatus claims 19-21 correspond to method claims 8-10, and are rejected for the same reasons of anticipation as used above.

Regarding claims 22-24: apparatus claims 22-24 are drawn to the apparatus corresponding to the method of using same as claimed in claims 14-16. Therefore apparatus claims 22-24 correspond to method claims 14-16, and are rejected for the same reasons of anticipation as used above.

Regarding claims 25-27: program claims 25-27 are drawn to the program corresponding to the method of using same as claimed in claims 1 and 3-7. Therefore program claims 25-27

Art Unit: 2651

correspond to method claims 1 and 3-7, and are rejected for the same reasons of anticipation as used above.

Regarding claims 28 and 29: program claims 28 and 29 are drawn to the program corresponding to the method of using same as claimed in claims 8-10. Therefore program claims 28 and 29 correspond to method claims 8-10, and are rejected for the same reasons of anticipation as used above.

Regarding claims 30 and 31: program claims 30 and 31 are drawn to the program corresponding to the method of using same as claimed in claims 11-13. Therefore program claims 30 and 31 correspond to method claims 11-13, and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yarmchuk and Raphael et al. (US 6,707,632), hereafter, Raphael.

Regarding claim 2, Yarmchuk teaches all the limitations of claim 1 above, but fails to explicitly disclose varying the amount of current flow to a drive motor for said actuator while the actuator is in contact with said crash stop. However, Raphael is relied upon to teach varying the amount of current flow to a drive motor for said actuator while the actuator is in contact with said crash stop (see col.

Art Unit: 2651

8, ln. 29-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon positioning the actuator against a crash stop of Yarmchuk by applying the teaching of increasing the current to the coil to limit the movement of the actuator against the crash stop as taught by Raphael for the reason as disclosed in column 8, line 23-27 by Raphael.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason C Olson whose telephone number is (571)272-7560. The examiner can normally be reached on Monday thru Thursday 7:30-5:30; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (571)272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCO

February 18, 2005



DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600